SKRJABINOPTERA GOLDMANAE N. SP. (NEMATODA : PHYSALOPTERIDAE) FROM AN AUSTRALIAN AGAMID LIZARD

by PATRICIA M. MAWSON*

ABSTRACT

Skrjabinoptera goldmani n. sp. is described from *Amphibolurus barbatus* from western New South Wales. The species is distinguished chiefly by the great development of the musculature of the pharyngeal part of the oesophagus.

INTRODUCTION

Several collections of nematodes from the stomach of *Amphibolurus barbatus*, Cuvier, were made by Miss Judy Goldman, a postgraduate student at the University of Sydney, to whom I am most grateful. All the collections contained an apparently new species of physalopterid, for which the name *Skrjabinoptera goldmanae* is proposed. Most of the worms were firmly attached to the stomach wall by their anterior ends which were buried in the mucosa, so that some dissection was necessary to detach them. The hosts were taken in western New South Wales, around Cobar, Bobodah, and Nymagee.

Skrjabinoptera goldmanae n. sp.
(Figs. 1 to 10)

The males are 9·1 to 14·1 mm long, the females 16·0 to 23·0 mm.

A cuticular collar is present dorsally and ventrally but does not extend right round the anterior end. The two lateral pseudolabia each bear an apical tooth, two papillae, and an amphid. The apical tooth is directed outwards, and arises from a branched "anchor", apparently a cuticular thickening. Behind this on the inside of the lip are two cuticular inflations, one dorsally and one ventrally. The anterior end of the oesophagus is flattened from side to side and greatly widened dorso-ventrally forming two lateral masses connected to the body wall by radial fibres, probably part of the cephalic septum (Inglis, 1964). This enlargement of the oesophagus gives a characteristic appearance to the anterior end of the worm, which in lateral view widens and then is almost truncated. In the case of the older worms, which were most firmly attached to the host tissue, the anterior end is greatly stretched, the lips are turned outward, and a plug of the mucosa of the host extends well into the open buccal cavity (figs. 2, 6). Posterior to this enlarged pharyngeal part, the oesophagus is constricted, then widens rapidly, and is cylindrical to its posterior end. The length of the oesophagus is 2·9 to 4·8 mm in the male, 5·3 to 7·5 mm in the female, about a third that of the body. The nerve ring which surrounds it at the post-pharyngeal constriction is 400 to 540 μ from the anterior end of the worm in the male, 600 to 700 μ in the female.

In the male the cervical papillae are at about the same level as the nerve ring; in the female they lie a little in front of this. The excretory pore is a short distance behind the nerve ring.

The female reproductive system is typically physalopteran. There are four ovaries each leading by its oviduct to a small spherical swelling and thence to a uterus. The four ovaries are in the posterior third of the body. The four uteri unite in pairs a short distance behind the vulva, and the resulting tube enlarges

* Zoology Department, The University of Adelaide.

slightly before entering the muscular vagina. The vulva is 6·5 to 10·5 mm, or 1/2·3 to 1/3·1 of the body length, from the anterior end.

The eggs are thick-shelled, oval, 48 to 42 μ × 30 to 35 μ, and those in the vagina and in the lower parts of the uteri are loosely contained in an outer envelope, apparently a little less densely chitinous than the egg shell proper, and embossed on the outer surface (Fig. 10).

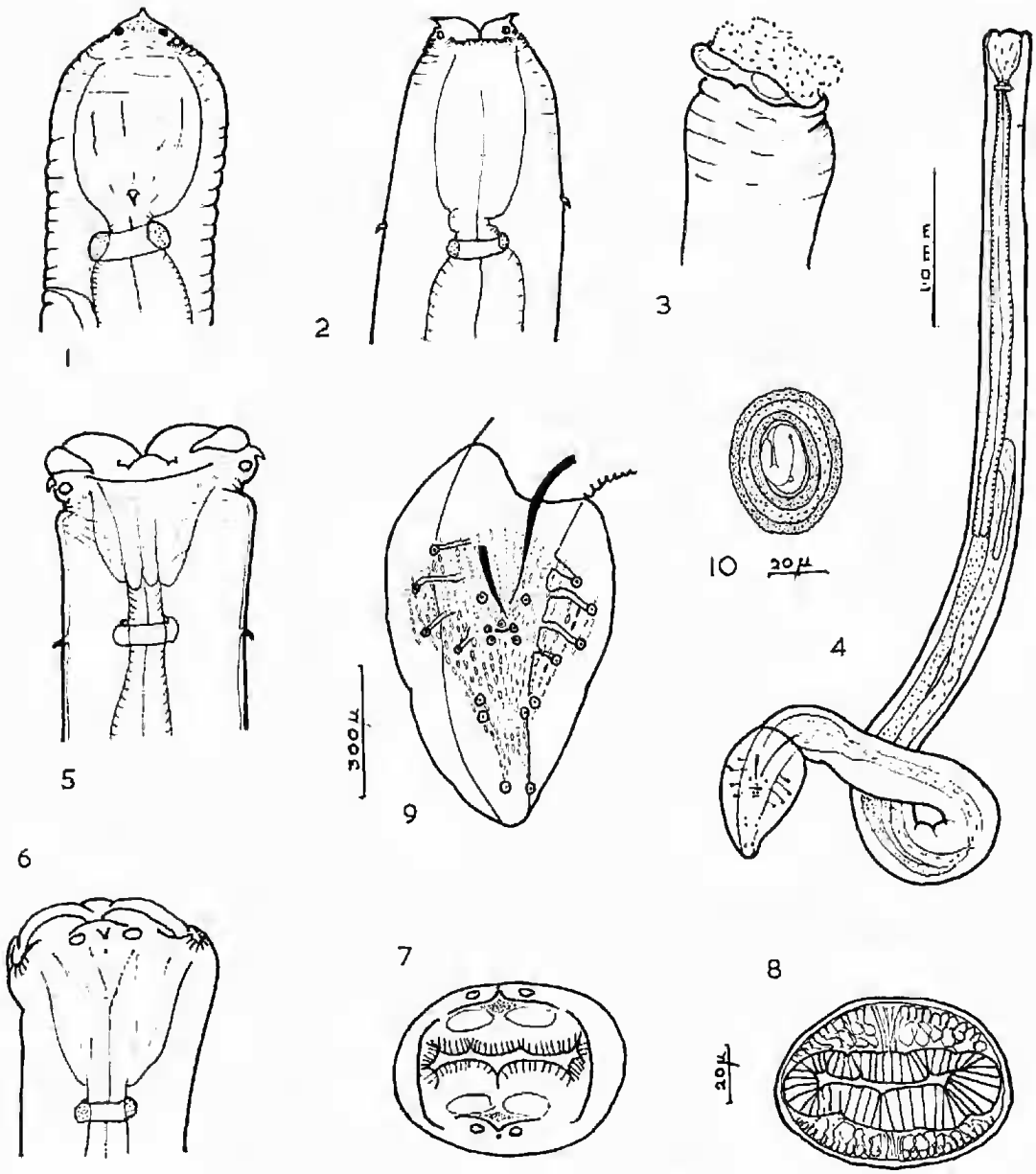
In the male the caudal alae meet ventrally anterior to the cloaca; the embossed area on the ventral surface of the tail extends from the level of the most anterior caudal papillae to include all the caudal papillae, as shown in Fig. 9. The shorter right spicule (170-200 μ) is heavily chitinised, and tapers to a fine point; the left spicule (410-550 μ) is slender, very lightly chitinised, and also tapers to a point. The arrangement of the caudal papillae is shown in Fig. 9.

The species is placed in the genus *Skrjabinoptera* Schulz because each pseudolabium bears only one tooth. It differs from other species so far recorded for this genus in the great development of the pharyngeal part of the oesophagus. The specimens available come from at least seven host animals, all from the same general region, and vary from very young worms to large gravid females, and all show this characteristic development of the oesophagus, although only in the older specimens are the pseudolabia bent outwards and the collar region stretched.

LITERATURE

Schulz, R. E. S., 1927. Die familie Physalopteridae Leiper, 1908 (Nematodes) und die Prinzipien ihrer klassification. Sborn. Rabot. Gelm. Posv. K.I. Skryabin: pp. 287-312.

Inglis, W. G., 1964. The functional and developmental significance of the cephalic septum in the Ascaridoidea (Nematoda). Proc. Linn. Soc. London 176: pp. 23-36.



Figs. 1 and 2, anterior end of very young female, lateral and median views; 3, anterior end of older female, with plug of host's mucous membrane in mouth; 4, whole male worm; 5 and 6, anterior end of older male, ventral and lateral views; 7, en face view of head of female; 8, T.S. body just behind head, same specimen as Fig. 7; 9, ventral view of male tail; 10, egg from vagina.

Figs 1, 2, 5, 6 and 9 to same scale; Figs 3 to 4 to same scale; Figs 7 & 8 to same scale.